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V 2087

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Patent Application of

Confirmation No.: 2389

Marshall MILES

Date: February 5, 2007

Serial No.: 10/729,183

Group Art Unit: 2838

Filed: December 4, 2003

Examiner: B.Q. Vu

For: SPLIT-PACKAGE AC ADAPTER

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**VIA EFS-WEB**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPEAL BRIEF PURSUANT TO 37 C.F.R. §1.192**

Sir:

This Appeal concerns the correctness of the Examiner's final rejection dated July 17, 2006 in connection with the above-identified application, the Notice of Appeal for which was filed on October 4, 2006.

**I. REAL PARTY IN INTEREST:**

The real party in interest is the assignee Bel-Fuse, Inc..

## **II. RELATED APPEALS AND INTERFERENCES:**

The applicants, the assignee and the undersigned attorneys are not aware of any related appeals and interferences.

### **III. STATUS OF CLAIMS:**

Claims 1-9 stand rejected under 35 U.S.C. §103.

**IV. STATUS OF AMENDMENTS:**

No Amendments were filed after Final Action.

## **V. SUMMARY OF CLAIMED SUBJECT MATTER**

Referring to Figs. 1 and 2, Applicants' invention, as set forth in independent claim 1, is directed to a power adapter 1 comprising a first housing 8 (p. 5, line 6) and a second housing 18 remote from the first housing 1. An AC input receptacle 2 (p. 5, lines 6-7) is provided in the first housing 8 and a voltage converting circuit 6 is enclosed within the first housing 8 and electrically connected to the AC input receptacle 2, the voltage converting circuit 6 converting input AC power into a DC voltage. A voltage regulating circuit 16 (p.3, line 28) is electrically connectable to the voltage converting circuit 6 and is enclosed within the second housing 18, the voltage regulating circuit 16 maintaining and outputting the DC voltage from the voltage converting circuit 6.

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL:**

Whether claims 1-9 are unpatentable under 35 U.S.C. §103(a) as being unpatentable over Faulk (U.S. Patent No. 5,818,705) in view of Lee (U.S. Patent No.6,198,638).

## **VII. ARGUMENT:**

### **Claims 1-9**

Claims 1-9 are rejected under 35 U.S.C. §103(a) as being unpatentable over Faulk (U.S. Patent No. 5,818,705) in view of Lee (U.S. Patent No. 6,198,638). Applicant respectfully traverses this rejection.

The Examiner acknowledges that Faulk does not disclose a voltage regulating circuit. The Examiner also acknowledges that Faulk does not disclose a separate housing remote from the first housing, let alone a voltage regulating circuit which is contained in the second housing. Lee is cited as disclosing a voltage regulating circuit.

The examiner does not contend that either Faulk or Lee disclose or suggest a remote second housing. Instead, the Examiner relies on the case of Nerwin v. Erlichman 168 USPQ 177, 179 as standing for the proposition that "... constructing a formerly integral structure in various elements involves only routine skill in the art." This, however, was not the holding in Nerwin v. Erlichman.

Nerwin v. Erlichman involved an interference in which the issue was not patentability but instead was whether one of the parties was able to make a count of the interference. In this instance, the Court held that the fact that a structure is integral does not preclude its consisting of various elements. This has absolutely nothing to do with the question of obviousness or non-obviousness.

A case that did deal with this issue is Mooney v. Brunswick Corp., 489 F. Supp. 544, 561, 206 USPQ 121 (E.D. Wis. 1980), *aff'd*, 663 F.2d 724, 212 USPQ 401 (7<sup>th</sup> Cir. 1981), in which the Court held that there is no *per se* rule that making something in one piece that was formerly made in two or more pieces renders it obvious. Rather, the Court held one must look at the improvement that results from the new construction and whether that improvement of construction itself is obvious from the prior art. Although the case simply dealt with making something in one piece that was formerly made in two or more pieces, the same logic obviously would apply to the reverse situation, that is, making something in two or more pieces that was formerly made in one piece.

Specifically, applying this reasoning to the present situation, it is seen that numerous improvements have resulted from providing two housings rather than one, and by the selective placement of components in the two housings, and that there is nothing in the prior art that would suggest either the use of the two housings or the specific disposition of parts within those housings. More specifically, there is nothing in the prior art that would suggest disposing the AC input receptacle and voltage converting circuit in one housing and the voltage regulating circuit in another circuit remote from the first housing.

By providing two housings and placing the AC connectors and the AC/DC converter in one housing and placing the voltage regulators in a second housing, Applicant provides a power adapter

which has a relatively simple structure, a high efficiency and improved output performance. Moreover, because the first housing need only contain the voltage converting circuit, the power adapter has increased thermal performance and improved electromagnetic interference characteristics.

Additionally, since the power converter circuit electronics are separated from the input connector style (for example, 110V<sub>AC</sub>, 220V<sub>AC</sub>), which vary by geography throughout the world, production costs can be reduced because each of the input connectors and the voltage regulating circuits can be separately manufactured and then matched to form the desired power adapter. For example, with the prior art power adapters, if there were five different input connector styles and 5 different output voltages required, 25 different connectors would have to be produced (5 input connectors X 5 required output voltages). With the present power adapter, the five different input connectors could be produced separately from the five voltage regulating portions. Then the desired input connector style can be matched to desired voltage regulating portion. Thus, only 10 separate items need be manufactured (5 input connector styles + 5 voltage regulating portions).

In view of the foregoing it is respectfully submitted that claim 1 is clearly not rendered obvious by the combination of Faulk and Lee.

Claims 2-9 are dependent either directly or indirectly from claim 1 and are therefore patentable for the same reasons as well as because of combinations of the features set forth in these claims with the features set forth in the claim(s) from which they depend.

## **CONCLUSION:**

In view of the foregoing, it is respectfully submitted that claims 1-9 are clearly patentable over the combination of Faulk and Lee. Accordingly, it is respectfully requested that the decision of the Examiner finally rejecting claims 1-9 be reversed and that this application be passed to issue.

Credit card payment for the required filing fee in the amount of \$500.00 is submitted via EFS-Web.

If this Appeal Brief is filed after a shortened statutory time period has elapsed and no separate Petition is enclosed, the Commissioner of Patents and Trademarks is petitioned, under 37 C.F.R. §1.136(a), to extend the time for filing a response to the outstanding Office Action by the number of months which will avoid abandonment under 37 C.F.R. §1.135. The fee under 37 C.F.R. §1.17 should be charged to our Deposit Account No. 15-0700.

In the event the actual fee is greater than the payment submitted or is inadvertently not enclosed or if any additional fee during the prosecution of this application is not paid, the Patent Office is {00815320.1}

authorized to charge the underpayment to Deposit Account No. 15-0700.

Respectfully submitted,



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Attachment: Appendix of the claims

## **APPENDIX OF THE CLAIMS**

1. A power adapter comprising:  
a first housing;  
a second housing remote from the first housing;  
an AC input receptacle provided in the first housing;  
a voltage converting circuit enclosed within the first housing and electrically connected to the AC input receptacle, the voltage converting circuit converting input AC power into a DC voltage; and  
a voltage regulating circuit electrically connectable to the voltage converting circuit and enclosed within the second housing, the voltage regulating circuit maintaining and outputting the DC voltage from the voltage converting circuit.
2. The power adapter according to claim 1, further comprising an electrical device connector electrically connectable to the voltage regulating circuit.
3. The power adapter according to claim 2, further comprising:  
a means for connecting the voltage converting circuit to the voltage regulating circuit; and  
a means for connecting the voltage regulating circuit to the electrical device connector.
4. The power adapter according to claim 3, wherein:  
the means for connecting the voltage converting circuit to the voltage regulating circuit comprises a first cable; and  
the means for connecting the voltage regulating circuit to the electrical device connector comprises a second cable.
5. The power adapter according to claim 4, wherein the first cable runs from the first housing to the second housing and the second cable runs from the second housing to the electrical device connector.
6. The multiple output power adapter according to claim 1, wherein the voltage converting circuit includes a rectifier.

7. The multiple output power adapter according to claim 6, wherein the rectifier is a full-wave rectifier.

8. The multiple output power adapter according to claim 7, wherein the full-wave rectifier is a bridge rectifier.

9. The power adapter according to claim 1, wherein the voltage converting circuit includes an EMI filter and the voltage regulating circuit includes a transformer.

## **EVIDENCE APPENDIX**

None.

## **RELATED PROCEEDINGS APPENDIX**

None.